

STATIONARY SOURCE PERMIT TO OPERATE

This permit replaces your Exclusionary General permit dated April 21, 1998, and supersedes your permit dated May 29, 2002.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Globe Iron Construction Company Incorporated
PO Box 2354
Norfolk, Virginia 23501-2354
Registration No.: 61144
AFS Id. No.: 51-710-00231

is authorized to operate

a structural steel fabrication plant

located at

1401 Maltby Avenue
Norfolk, Virginia 23501

in accordance with the Conditions of this permit.

Approved on **Date**.

Director, Department of Environmental Quality

Permit consists of 8 pages.
Permit Conditions 1 to 24
Attachment A: List of HAPS

PERMIT CONDITIONS - the regulatory reference or authority for each condition is listed in parentheses () after each condition.

APPLICATION

1. Except as specified in this permit, the permitted facility is to be constructed and operated as represented in the permit application dated December 17, 2001, including amendment information dated May 18, 2004, and June 22, 2004. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.
(9 VAC 5-80-830)

PROCESS REQUIREMENTS

2. **Equipment List** - Equipment to be operated at this facility consists of:
 - one structural steel fabricating operation,
 - one abrasive blast process with dust collector assembly,
 - one spray-coating area, and
 - two cold solvent parts washers.
3. **Emission Controls** - Particulate emissions from the abrasive blast processes shall be controlled by a dust collector utilizing cartridge filters. The dust collector shall have adequate access to allow inspection of the unit.
(9 VAC 5-80-850)
4. **Emission Controls** - Volatile Organic Compound (VOC) emissions from the cold solvent parts-washers shall be minimized by utilizing low-VOC cleaning solutions or as follows:
 - a. Covers or enclosed remote reservoirs should be provided. Covers should be designed so that they can be easily operated with one hand. (Covers for larger degreasers may require mechanical assistance, by spring loading, counterweighting or powered systems). Enclosed remote reservoirs should be designed such that they provide reduction effectiveness equivalent to that of a cover.
 - b. External or internal drainage facilities should be provided to collect and return the solvent to a closed container or a solvent cleaning machine. If solvent volatility is greater than 0.6 psi measured at 100 degrees F, then the drainage facilities should be internal, so that parts are enclosed under the cover while draining. The drainage facilities may be external for applications where an internal type cannot fit into the cleaning system.
 - c. A permanent label, summarizing the operating procedures in subsections C.2. a. through c. of the Control Technology section of Rule 4-24, should be placed in a conspicuous location on or near the degreaser.
 - d. If used, the solvent spray should be a solid, fluid stream (not a fine, atomized or shower type spray) and at a pressure which does not cause excessive splashing.

- e. Waste solvent should not be disposed of or transferred to another party, such that greater than 20% of the waste (by weight) can evaporate into the atmosphere. Store waste solvent only in closed containers.
- f. The degreaser cover should be closed whenever not handling parts in the cleaner.
- g. Cleaned parts should drain at least 15 seconds or until dripping ceases.
- h. Disposal of waste solvent from the solvent metal cleaning operations should be either by reclamation or incineration.

(9 VAC 5-80-850 and 9 VAC 5-40-3290 (Article 24))

- 5. **Emission Controls** – Volatile Organic Compound emissions from the spray-coating area shall be controlled by use of low-VOC coatings for the steel fabrication plant. All coatings used in the steel fabricating plant shall contain no more than 3.5 pounds of VOC per gallon of coating, less water, as applied. Thinners/solvents, used for cleanup and thinning, shall contain no more than 6.5 pounds of VOC per gallon.

(9 VAC 5-80-850, 9 VAC 5-80-1180, and 9 VAC 5-50-260)

OPERATING/EMISSION LIMITATIONS

- 6. **Throughput** - The throughput of abrasive material shall not exceed 52 tons per year of new abrasive blasting shot being added to the abrasive blasting system, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-850)

- 7. **Throughput** - The throughput of new cleaner, containing volatile organic compounds, shall not exceed 150 gallons per year being added to the parts washers, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-850)

- 8. **Throughput** - The spray-coating operation shall use no more than 8000 gallons of all coatings per year and no more than 1500 gallons of thinners/solvents, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-850 and 9 VAC 5-80-1180)

- 9. **Emission Limits** - Emissions from the operation of the spray-coating operation shall not exceed the limits specified below:

Volatile Organic Compounds

7.0 lbs/hr

18.9 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition numbers 5 and 8.

(9 VAC 5-80-850 and 9 VAC 5-80-1180)

10. **Emission Limits** - Emissions from the operation of the parts-washers (combined) shall not exceed the limits specified below:

Volatile Organic Compounds	0.5 tons/yr
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These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition number 7.

(9 VAC 5-80-850)

11. **Plantwide Emission Limits** - Total emissions from the steel fabricating plant shall not exceed the limits specified below:

Volatile Organic Compounds	19.4 tons/yr
PM-10	0.2 ton/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition numbers 3 through 8.

(9 VAC 5-80-850)

12. **Visible Emission Limit** - Visible emissions from the fabric filter exhaust used by the abrasive blast operation shall not exceed 10 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).

(9 VAC 5-80-850)

13. **Toxics, Hazardous Air Pollutants** - The permittee is limited to use of the following volatile toxic compounds or hazardous air pollutants (HAPS) in coatings and solvents/thinners for the spray painting operations:

<u>Volatile Toxic Compounds or HAPS</u>	<u>CAS Number</u>
Xylenes	1330207
Ethyl benzene	100414
Toluene	108883
MEK	78993
Ethylene glycol	107211
MIK	108101

The permittee may use additional toxic compounds or HAPS (listed in Attachment A) in the spray coating operations under 9 VAC 5-60-320 without obtaining a new permit provided the following conditions are met:

- a. Notification shall be given to the Director, Tidewater Regional Office. Such notification shall be made within fifteen (15) days after the use of additional toxic compounds or HAPS and shall include identification of toxic compounds or HAP, the date the toxic compounds or HAP was first used, and the anticipated maximum throughput of that compound in lbs/hr and tons/yr. Additional details of the notification should be arranged with the Director, Tidewater Regional Office.
- b. The permittee shall operate this facility in compliance with 9 VAC 5 Chapter 60, Article 3, for all toxic compounds and HAPS.
- c. The permittee shall not use any HAP which would make the facility subject to federal emission standards in 40 CFR 61 or 40 CFR 63.

If a permit is required, failure to obtain the permit prior to the change in process formulation or the use of any additional toxic compound or HAP may result in enforcement action.
(9 VAC 5-80-850)

14. **Emission Limits** - Hazardous air pollutant (HAP) emissions, as defined by §112(b) of the Clean Air Act, from the facility shall not exceed 9.0 tons per year of any individual HAP or 13.9 tons per year of any combination, calculated monthly as the sum of each consecutive 12-month period. HAPS which are not accompanied by a specific CAS number as listed in Attachment A shall be calculated as the sum of all compounds containing the named chemical when determining compliance with the individual HAP emissions limitation of 9.0 tons per year.
(9 VAC 5-80-850)

RECORDS

15. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Tidewater Regional Office. These records shall include, but are not limited to:
 - a. Annual throughput of new abrasive blast material added to the abrasive blasting system, calculated monthly as the sum of each consecutive 12-month period.
 - b. Annual throughput of coatings and thinners/solvents, calculated monthly as the sum of each consecutive 12-month period.
 - c. Annual throughput of new cleaner, containing VOCs, added to the parts washers, calculated monthly as the sum of each consecutive 12-month period.
 - d. For each coating, the VOC content in pounds per gallon, as purchased.
 - e. For each coating, the VOC content in pounds per gallon, as applied, less water.

- f. For each thinner/solvent, the VOC content.
 - g. List of HAPS used at the facility.
 - h. Annual emissions of each HAP and total HAPS, calculated monthly as the sum of each consecutive 12-month period.
- These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-900)

GENERAL CONDITIONS

16. Right of Entry - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

- a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;
- b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;
- c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and
- d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.
(9 VAC 5-170-130)

17. Notification for Control Equipment Maintenance - The permittee shall furnish notification to the Tidewater Regional Office of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour, at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:

- a. Identification of the air pollution control equipment to be taken out of service, as well as its location, and registration number;
- b. The expected length of time that the air pollution control equipment will be out of service;
- c. The nature and quantity of emissions of air pollutants likely to occur during the shutdown period;

- d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

(9 VAC 5-20-180 B)

- 18. Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the Tidewater Regional Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but not later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify Tidewater Regional Office in writing.

(9 VAC 5-20-180 C)

- 19. Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.

(9 VAC 5-20-180 I)

- 20. Maintenance/Operating Procedures** - The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Maintain an inventory of spare parts.
- c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.

(9 VAC 5-50-20 E)

21. Permit Suspension/Revocation - This permit may be suspended or revoked if the permittee:

- a. Knowingly makes material misstatements in the application for this permit or any amendments to it;
- b. Fails to comply with the terms or conditions of this permit;
- c. Fails to comply with any emission standards applicable to the equipment listed in Condition 2;
- d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;
- e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect on the date that the application for this permit is submitted;
- f. Fails to comply with the applicable provisions of 9 VAC 5-80-10, and Article 8 and Article 9 of 9 VAC 5 Chapter 80.
(9 VAC 5-80-1010)

22. Change of Ownership - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Tidewater Regional Office of the change of ownership within 30 days of the transfer.
(9 VAC 5-80-940)

23. Registration/Update - Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact. The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.1-340 through 2.1-348 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.
(9 VAC 5-80-900)

24. Permit Copy - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-80-860 D)

Globe Iron calcs:

Painting operation: wants 8000 gal/yr of paint and 1500 gal/yr of thinner.

New VOC from painting:

Lb/hr = Paint = 12.5 lbs/hr (about 1.5 gal/hr, VOC = 1.5 gal/hr X 3.5 lb/gal = 5.3 lb/hr))

Thinner = 3.5 lbs/hr (about 1/2 gal/hr)

Paint total lb/hr = 16.0 lb/hr

VOC lb/hr = 2.0 gal/hr X 3.5 lb/gal, as applied = 7.0 lb/hr

Ton/yr = Paint at 8000 gal/yr X 3.5 lb/gal/2000 = 14.0 ton/yr

Thinner = 1500 gal/yr X 6.5 lb/gal/ 2000 = 4.88 ton/yr

Total ton/yr = 18.9 tons/yr

Past actuals (avg of 2002 & 2003) = (5.75 + 7.51)/2 = 6.63 ton/yr

VOC NEI = 18.9 – 6.6 = + 12.3 tons/yr. **An Article 6 modification. Since VOC over 10 tons/yr with HAPS, will use federally enforceable SOP to limit HAPS at syn-minor level—SOP sig amend with NSR citations as needed.**

Project BACT NEI = + 12.3 ton/yr for VOC

Emission unit BACT NEI for coating operation = + 12.3. BACT is applicable for VOC. Use Rule 4-34 compliant coatings at no more than 3.5 lbs of VOC per gal, less water, as applied.

HAPS: assumes all VOC = each HAP for lb/hr and limit each HAP at 9.0 tons/yr.

Paint	lbs/hr	tons/yr
Xylene	5.3	9.0
Ethyl benzene	5.3	9.0
Toluene	5.3	9.0
MEK	5.3	9.0

Thinner: all VOC in thinner = each HAP

Toluene	3.5	4.9
Ethylene glycol	3.5	4.9
MIK	3.5	4.9

assumes all VOC = each HAP and limit each HAP to 9.0 tons/yr in permit:

Total			Exmpt lb/hr	Exmpt ton/yr	EXMPT
Xylene	5.3	9.0	21.48	62.9	Y
Ethyl benzene	5.3	9.0	17.9	62.9	Y
Toluene	8.8	9.0	18.6	54.7	Y
MEK	5.3	9.0	22.8	85.6	Y
Ethylene glycol	3.5	9.0	4.19	n/a	Y
MIK	3.5	9.0	10.1	29.7	Y

Total of all HAPS = 9.0 + 4.9 = 13.9 tons/yr.

VOC from parts washers: Lost cleaner = **150 gal/yr** X 7.3 lb/gal/2000 lb/ton = 0.5 tons/yr.
Assume worst case that 100% VOC and all is lost.

VOC = amount cleaner purchased minus amount to disposal, or if not 100% VOC, (% VOC in solvent X amount purchased) minus (% VOC in cleaner X amount to disposal). VOCs from this operations were missing from first SOP issued in 2002.
No HAPS.

Total VOC = 18.9 + 0.5 = 19.4 tons/yr

Suggested permit limits:

Abrasive blasting operations at 52 tons/yr of new material (media is used over and over until fails screening in the recycling process). Limits for it are not listed as its emissions were only 0.2 ton/yr

Coating operation: 8,000 gal coating and VOC at 3.5 lb/gal
1,500 gal of thinner/solvent and VOC at 6.5 lb/gal
VOC 7.0 lbs/hr and 18.9 tons/yr.

Parts washers at 150 gal/yr of new cleaner and 0.5 ton of VOC

Facility limits:

VOC 19.4 tons/yr

PM-10 0.2 ton/yr

HAPS at 9.0 tons/yr for each HAPS and 13.9 tons/yr for all HAPS.

CEDS: Add HAPS for coating operations

Add VOC for parts washers